

with brown; intermediate and posterior coxæ, trochanters, and spots to apical segment of abdomen piceous; anterior coxæ and femora each with two broad brown annulations, anterior tibiæ with three annulations, apex of anterior tarsi and the intermediate and posterior tarsi fuscous; rostrum with the second joint annulated with brown; antennæ, intermediate and posterior legs much and closely annulated with brown.

Long.  $8\frac{1}{2}$  millim.

*Hab.* Urun, near Bombay (*Aitken*, Brit. Mus.).

Found living in nest of a spider (*Theridium* sp.).

### XXI.—*Note on a Fossil Eel from the Scandinavian Chalk.*

By A. SMITH WOODWARD, LL.D., F.R.S.

THERE is no longer any doubt that well-differentiated eels occur as fossils in the Chalk. Nearly complete skeletons from two formations in the Lebanon\* exhibit only one essential difference from a modern generalized eel, namely, the presence of a separate caudal fin, which has subsequently disappeared. Well-preserved remains of the head from the English Chalk† show that the cranial osteology of the Cretaceous fish is identical with that characteristic of the suborder Apodes in the existing fauna.

It is curious that so highly specialized a type of fish as the eel should date back to the Cretaceous period. It is still more remarkable that it should prove to have been widely distributed at that remote time. Continual discoveries, however, seem to indicate that it was an essential element of the later Cretaceous fish-fauna. I have recently examined a new specimen which extends its known range to Scandinavia.

This interesting fossil was obtained from the Danian Chalk of Limhamn, near Malmö, in Southern Sweden, and is now preserved in the Museum of the University of Lund, where Prof. J. Christian Moberg has kindly permitted me to study it. It was originally mentioned by Dames‡ as possibly belonging to the family Gadidæ, and was subsequently

\* *Urenchelys avus* and *U. hakeiensis*, A. S. Woodward, Catal. Foss. Fishes B. M. pt. iv. (1901) pp. 337, 338, pl. xviii. figs. 1-3.

† *Urenchelys anglicus*, A. S. Woodward, Ann. & Mag. Nat. Hist. [7] vol. v. (1900) p. 321, pl. ix. fig. 1.

‡ W. Dames, "Ueber Vogelreste aus dem Saltholmskalk von Limhamn bei Malmö," Bihang k. Svensk. Vet.-Akad. Handl. vol. xvi. sect. iv. no. 1 (1890), p. 3.

described by Davis\*, as one of the Cretaceous Dercetidæ, under the name of *Dercetis limhamnensis*. Both these determinations are undoubtedly erroneous, and the characters of the fossil, so far as preserved, are those of an Apodal fish.

As shown by the description and figure published by Davis (*loc. cit.*), this specimen comprises only the head, clavicle, and anterior part of the vertebral column of a long and slender fish. The head-bones are obviously thick and of open texture, quite unlike those of the Dercetidæ †; while the occipital and otic regions are sufficiently well preserved to indicate that they are eel-like and totally different from those of any known Gadidæ. All the remains, however, are in a crushed and broken condition, so that the details of the osteology are only vaguely observable. The teeth are very small and blunt. The vertebræ of the abdominal region are exposed from above or below, and chiefly remarkable for the large size of their transverse processes, which are laminar in form and taper to a point at their free end. These processes were correctly recognized by Lundgren and Dames, but were mistaken by Davis for scutes crushed upon the vertebral centra. The ribs are not preserved. A sigmoidally bent clavicle, exactly like that of an eel (described and figured by Davis as scapula), is displaced at some distance behind the head. There are no scales or scutes.

It is obvious that so imperfect a fossil cannot be satisfactorily determined either generically or specifically. The specimen, however, needs a name for reference. As it exhibits no characters separating it from the *Urenchelys* of the Lebanon Chalk, it may be provisionally referred to that genus. It is therefore to be regarded as representing a species, *Urenchelys limhamnensis* (Davis), which awaits adequate definition. It indicates a larger fish than the Lebanon species, and approaches *U. anglicus* in size.

XXII.—Notes on Hippoboscidæ (Diptera Pupipara) in the Collection of the British Museum. By ERNEST E. AUSTEN.

THE following notes, which are chiefly concerned with synonymy and include no descriptions of new species, embody the conclusions at which the author has arrived while re-arranging

\* J. W. Davis, "On the Fossil Fish of the Cretaceous Formations of Scandinavia," Trans. Roy. Dublin Soc. [2] vol. iv. (1890) p. 431, pl. xlv. figs. 1, 2.

† A. S. Woodward, Catal. Foss. Fishes B. M. pt. iv. (1901) p. 185, pl. xii. fig. 4.